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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/432,337	11/02/1999	TINKU ACHARYA	INTL-0277-US	9913

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EXAMINER	
MAI, TAN V	
ART UNIT	PAPER NUMBER
2124	

DATE MAILED: 09/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
09/432,337		
Examiner: Mai, T.	Group Art Unit: 2124	

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

☒ Responsive to communication(s) filed on 8-20-02.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 1 1; 453 O.G. 213.

Disposition of Claims

☒ Claim(s) 1-12 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-12 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 11 9(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

*Certified copies not received: _____.

Attachment(s)

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other _____

Office Action Summary

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

2. Claims 3-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 3-12, the terms "processing circuit(s)" lack antecedent bases.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The applicant has failed to disclose the physical structure of his IIR filter with any meaningful degree of specificity.

The examiner contends that not only would it require undue experimentation to design the above IIR filter which would perform the function(s) disclosed and claimed, but that it would also require undue experimentation for one of ordinary skill in the art to design working apparatus that would permit the "chain of processing units" and "tap selection circuit" for providing the desired IIR feature.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-3, and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lesthievent et al.

As per independent claim 1, Lesthievent et al disclose, e.g., see Fig. 4, the invention substantially as claimed, including: a chain of processing units having multipliers g(i), and switches s(i). It is noted that Lesthievent et al do not specifically detail the claimed "tap selection circuit"; however, the switches s(i) are capable of providing the equivalent function, i.e., select a group of processing units having multipliers g(i). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to Lesthievent et al's teachings because the reference is a digital filter having selecting features as claimed.

As per dependent claim 2, the claim adds the "systolic chain". According to applicant's specification, page 3, lines 22-25, the "systolic architecture" means the "chain of processing units" producc a "different output value on each clock cycle". Lesthievent et al's "processing units having multipliers g(i)" do the same.

As per dependent claim 3, the switch s(i) are capable of selecting number of "processing units having multipliers g(i)".

As per dependent claims 9-10, the detail features are old and well known in the art.

As per dependent claim 11, Lesthievent et al's filter is FIR filter.

As per dependent claim 12, the claim adds the "processing circuit comprises a IIR filter". A person having ordinary skill in the art could substitute "IIR filter" in Lesthievent et al's FIR filter, thereby making the claimed invention.

6. Claims 1-5 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyake et al.

As per independent claim 1, Miyake et al disclose, e.g., see Figs. 1-2, 4, 10 and 11, the invention substantially as claimed, including: a chain of processing units having blocks SPE(i), and output selecting circuits (7). It is noted that Miyake et al do not specifically detail the claimed "tap selection circuit"; however, the "output selecting circuits (7)" are capable of providing the equivalent function, i.e., select the calculated output or the input of processing unit . It would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to Miyake et al's teachings because the reference is a digital filter having selecting features as claimed.

As per dependent claim 2, the claim adds the "systolic chain". According to applicant's specification, page 3, lines 22-25, the "systolic architecture" means the "chain of processing units" producc a "different output value on each clock cycle". Miyake et al's "processing units having blocks SPE(i)" do the same.

As per dependent claim 3, the "output selecting circuits (7)" are capable of selecting number of "processing units having blocks SPE(i)".

As per dependent claims 4-5, the "output selecting circuits (7)" could perform the claimed features because the "output selecting circuit (7)" selects either the input or the calculated output of the block.

As per dependent claims 9-10, the detail features are old and well known in the art.

As per dependent claim 11, Miyake et al's filter is FIR filter.

As per dependent claim 12, the claim adds the "processing circuit comprises a IIR filter". A person having ordinary skill in the art could substitute "IIR filter" in Miyake et al's FIR filter, thereby making the claimed invention.

7. Claims 1-5 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka et al.

As per independent claim 1, Yamanaka et al disclose, e.g., see Fig. 7, the invention substantially as claimed, including: a chain of processing units having blocks 10(i), and selecting circuits 12(i). It is noted that Yamanaka et al do not specifically detail the claimed "tap selection circuit"; however, the "selecting circuits 12(i)" are capable of providing the equivalent function, i.e., select the calculated output or the input of processing unit. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to Yamanaka et al's teachings because the reference is a digital filter having selecting features as claimed.

As per dependent claim 2, the claim adds the "systolic chain". According to applicant's specification, page 3, lines 22-25, the "systolic architecture" means the "chain of processing units" producc a "different output value on each clock cycle". Yamanaka et al's "processing units having blocks SPE(i)" do the same.

As per dependent claim 3, the "output selecting circuits 12(i)" are capable of selecting number of "processing units having blocks 10(i)".

As per dependent claims 4-5, the "selecting circuits 12(i)" could perform the claimed features because the "selecting circuit 12(i)" selects either the input or the calculated output of the block.

As per dependent claims 9-10, the detail features are old and well known in the art.

As per dependent claim 11,Yamanaka et al's filter is FIR filter.

As per dependent claim 12, the claim adds the "processing circuit comprises a IIR filter". A person having ordinary skill in the art could substitute "IIR filter" in Yamanaka et al's FIR filter, thereby making the claimed invention.

8. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamanaka et al as applied to claim 1 above, and further in view of either Machida, Brown, Lunner et al or Nillesen.

As per dependent claim 6, the claim adds a "first adder" and "multiplier". Yamanaka et al only show "multiplier"; however, the claimed "first adder" and "multiplier" feature is old and

well known in the art, e.g., see Machida (Fig. 1), Brown (Fig.7), Lunner et al (FigS. 1-2) or Nillesen (Fig. 1).

As per dependent claim 7, the claim adds a " second adder". Yamanaka et al do the feature.

9. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cited references are art of interest.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (703) 305-9761. The examiner can normally be reached on Tue-Fri from 6:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Morse, can be reached on (703) 308-4789. The fax phone numbers for the organization where this application or proceeding is assigned are:

After-final	(703) 746-7238
Official	(703) 746-7239
Non-Official/Draft	(703) 746-7240.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

TAN V. MAI
PRIMARY EXAMINER